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## **Disassemble/Pack and Unpack/Assemble Procedure for the BBSS**

### **I. Purpose:**

The purpose of this procedure is to describe the process by which the BBSS is disassembled, packed, unpacked, and assembled.

### **II. Cautions and Hazards:**

- This procedure requires working on top of the van while working with the antennas and cables. When removing or placing the large sond antennae off of or onto the roof the workers should plan ahead the procedure they are going to use.

### **III. Requirements:**

- Two or three people are needed to either remove or place the large round SOND antennae from and/or onto the van roof.

### **IV. Procedure:**

#### **A. Disassemble/Pack:**

2. Loosen but do not remove the two small screws on the top of the antennae stand.
3. Lift the cap & unscrew the cap from the antennae.
4. Unscrew the cable connector from the bottom of the GPS antennae.
5. Wrap the connector in plastic.
6. Disconnect the cable from the round SOND antennae.
7. Wrap the connector in plastic
8. Cover the connector on the antennae.
9. Disconnect the two GREEN/YELLOW antennae ground wires from the grounding lug on the bottom of the van.
10. Coil the two ground wires individually and secure them to their antennas.
11. Disconnect the GPS antennae cable from the RF - SMA pigtail at the DigiCORA.
12. Disconnect the SOND antennae cable from the RF - LEMO pigtail at the DigiCORA.

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13. Wrap the RG214 cable connectors in plastic.
14. Coil the two pigtails and put in a plastic bag.
15. Coil the two RG214 cables and secure with tie wraps.
16. Replace the GPS antennae on its stand.
17. Screw the chrome cap to the antennae.
18. Secure the assembly to the stand by tightening the two screws.
19. Remove the bolt securing the GPS antennae to the roof of the van.
20. With an assistant, carefully remove the large round SOND antennae from its stand and set it on the ground (It is not heavy, just awkward.)
21. Remove the four (4) bolts securing the stand to the roof.
22. After the two stands are removed and placed on the ground, replace the bolts using a little silicon caulk to seal them.
23. Wrap the SOND antennae in foam or bubble pack and place it inside a Van.
24. Wrap the GPS antennae and stand assembly in foam or bubble pack.
25. Wrap the SOND antennae stand in foam or bubble pack.
26. Disconnect the three (3) serial cables from the rear of the DigiCORA.
27. Disconnect the serial cable from the linebacker, #17049ZZ.
28. Disconnect the serial cable from the printer, #18085ZZ.
29. Disconnect the serial cable from the bit driver.
30. Coil the three (3) serial cables and place them in a plastic bag.
31. Disconnect the power cables from the linebacker, printer, and DigiCORA.
32. Bundle the power cables together and bag them.
33. Box the DigiCORA in its original box.
34. Perform a system backup of the linebacker computer. (This can be put on a ZIP disk, but put the file c:\zip\os2v234.exe on a floppy to enable you to install the ZIP drivers.)
35. Disconnect the AUX Ethernet cable and the ZIP drive from the linebacker.
36. Close the linebacker and wrap in bubble pack.
37. Wrap the printer in plastic and bubble pack.

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38. Disconnect the RJ45 cable from the Ethernet transceiver and hub; disconnect any other RJ45 cables from the hub also.
39. Remove the fiber optic cables from the Ethernet hub, place protective caps over the ST connectors.
40. Bundle the Ethernet transceiver, hub, transformer power supply, and RJ45 cables together with plastic wrap.
41. Remove the fiber-optic cables from the bit driver and place protective caps over the ST connectors.
42. Bundle the bit driver and its transformer together with bubble wrap.
43. Bundle the ZIP drive, cable, and power supply together.
44. Unplug any remaining items from the power strip.
45. Remove the power strip from the UPS.
46. Box the ZIP drive, Ethernet parts, cables, power strip, and bit driver together.
47. Wrap the UPS in bubble wrap and either pack separately or with the box of parts from step 45.

**B. Unpack/Assemble:**

2. Locate the box containing the zip drive, Ethernet parts, cables power strip, and bit driver.
3. Locate the UPS if separate from the items in step 1.
4. Locate the DigiCORA box.
5. Locate the two RG214 antennae cables.
6. Locate the GPS antennae and stand. (It should be one piece.)
7. Locate the SOND antennae (large round ball).
8. Locate the SOND antennae stand.
9. Locate the linebacker computer.
10. Locate the dot-matrix printer.
11. Suggested system location is on the same wall as the mail slot.
12. Suggested system layout - left to right: printer, zip drive, linebacker, Ethernet transceiver, DigiCORA, with the Ethernet hub and bit driver on shelf above main system and the UPS on a shelf below.
13. Connect the printer to the DigiCORA P3 using a serial cable with DB25 connectors on both ends, #18085ZZ.

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14. Connect the linebacker to the DigiCORA P4 using a serial cable with one DB9 connector and one DB25 connector, #17049ZZ.
15. Connect the bit driver to the DigiCORA P2 using a serial cable with two RJ45 - DB25 connectors. Only pins 1, 2, 3, and 7 are available on this cable with pins 2 and 3 crossed, labeled BBSS Bit Driver.
16. Connect the ZIP drive to the linebacker, the cable has "ZIP" on the end that connects to the drive. (The other end connects to the DB25 socket on the rear of the linebacker.)
17. Connect the Ethernet transceiver to the AUX connector on the linebacker.
18. Use a cable with RJ45 connectors on both ends to connect the Ethernet transceiver to the hub.
19. Mount the GPS antennae and stand on the roof using one of the bolts on the large steel pad located in the corner, one bolt is sufficient. (Use some silicone caulk to seal the bolt head.)
20. Mount the SOND antennae stand on the roof using four (4) bolts on the large steel pad located in the corner. (When mounting, take into consideration the fact that one side of the antennae must face North. Since there are three possible positions for mounting the antennae on the stand, and four positions for mounting the stand on the roof, you have 30° increments for the antennae position. Use silicone caulk to seal the bolt heads.)
21. Mount the SOND antennae on the stand with the connector side facing North.
22. Fish the RJ214 cable with the large right-angle connector up from the bottom inside the SOND antennae stand and connect it to its mating connector on the antennae cable labeled SOND-ANT BBSS.
23. Without removing them, loosen the two screws on the top of the GPS antennae.
24. Lift the chrome cap off of the GPS stand and unscrew it from the GPS antennae.
25. Fish the other RJ214 cable up inside the GPS antennae stand from the bottom (starting is difficult).
26. Place the chrome cap over the top of the end of the cable sticking out of the top of the stand.
27. ??Connect the cable to the mating connector on the bottom of the GPS antennae, GPS-ANT BBSS.
28. Screw the chrome cap to the bottom of the GPS antennae.

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29. Place the antennae, chrome cap assembly on top of the stand, and tighten the two screws to secure the chrome cap to the stand.
30. Fish the two cables through conduit to the mail slot and into the Van interior.
31. Connect the cable marked GPS BBSS to the pigtail marked GPS BBSS, the other end of the pigtail should be a SMA connector (threaded).
32. Connect the SOND cable to the pigtail marked SOND-ANT BBSS, the other end of the pigtail should be a LEMO connector.
33. Connect the GPS cable to the DigiCORA, GPS Ant. input.
34. Connect the SOND cable to the DigiCORA, Ant. input.
35. Connect the power cords and transformers to their mating equipment.
36. Connect the power strip to an outlet on the UPS.
37. Plug the printer into a 240 vac 50 Hz outlet.
38. Plug the remaining instruments into either an outlet on the power strip or on the UPS.
39. Leave the protective covers on the fiber optic ST connectors until they are connected to fiber.

#### **V. References:**

1. MAN(BBSS)-004.000 GPS Antennae GA20MAN(BBSS)-012.000 Antennae System RB21.
2. MAN(BBSS)-001.000 DigiCORA II MW15 Users Guide.

#### **VI. Attachments:**

None.